2 WHAT IS CLAIMED IS:

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- 5 1. A printing system for printing an image based upon
- 6 input image data; said system comprising:
- a printer manufactured by a printer company and
- 8 having a native resolution;
- a raster image processor manufactured and programmed
- 10 by one or more processor companies, different from the
- printer company; said processor processing such image data
- and transmitting processed image data to the printer;
- a two-bit data pipeline carrying such in-process data
- 14 through at least part of the processor; and
- a drop table for converting such data from the pipe-
- 16 line to the native resolution of the printer, said table
- being established by said one or more processor companies
- 18 different from the printer company, and having an output
- 19 dot-per-pixel structure that differs from data structure
- 20 within the pipeline.
 - 2. The system of claim 1, wherein:
- the table is configured by instructions held or gen-
- 3 erated in the raster image processor.
- 1 3. The system of claim 2, wherein:
- 2 the table resides within the printer.

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- 1 4. The system of claim 1, further comprising:
- in the processor, precooked printmask information and
- 3 procedures; and
- in the printer, popup printmask information and
- 5 procedures for refining precooked mask information from
- 6 the processor.
- 1 5. The system of claim 4, wherein the precooked and
- 2 popup printmask information and procedures:
- 3 comprise nozzle-out error hiding; and
- have a format that expressly defines which pass
- 5 prints each pixel, as distinguished from provision of a
- 6 discrete binary mask for each pass.
 - 6. The system of claim 1, wherein:
- the table output dot-per-pixel structure is mapped to
- 3 the data structure within the pipeline substantially thus:

| 5 | in pipeline | dots/pixel out |
|---|-------------|----------------|
| 6 | 0 0 | 0 |
| 7 | 0 1 | 1 |
| 8 | 1 0 | 1 |
| 9 | 1 1 | 1. |

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7. The system of claim 1, wherein:

2 the table output dot-per-pixel structure is mapped to

3 the data structure within the pipeline substantially thus:

| 5 | <u>in pipeline</u> | dots/pixel out |
|---|--------------------|----------------|
| 6 | 0 0 | 0 |
| 7 | 0 1 | 1 |
| 8 | 1 0 | 1 |
| ٥ | 1 1 | 2. |

8. The system of claim 1, wherein:

the table output dot-per-pixel structure is mapped to

the data structure within the pipeline substantially thus:

| 5 | <u>in pipeline</u> | dots/pixel out |
|---|--------------------|----------------|
| 6 | 0 0 | 0 |
| 7 | 0 1 | 1 |
| 8 | 1 0 | 2 |
| 9 | 1 1 | 4. |

9. The system of claim 1, wherein:

2 the table output dot-per-pixel structure is mapped to

the data structure within the pipeline substantially thus:

| 5 | in pipeline | dots/pixel out |
|---|-------------|----------------|
| 6 | 0 0 | 0 |
| 7 | 0 1 | 1 |
| 8 | 1 0 | 3 |
| 9 | 1 1 | 8. |

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- 1 10. The system of claim 1, wherein:
- 2 the table output dot-per-pixel structure is mapped to
- 3 the data structure within the pipeline substantially thus:

| 5 | in pipeline | dots/pixel out |
|---|-------------|----------------|
| 6 | 0 0 | 0 |
| 7 | 0 1 | 2 |
| 8 | 1 0 | 5 |

9 1 1 12.

- 11. The system of claim 1, further comprising:
- 2 a computer for receiving or generating such image
- 3 data, and transmitting such data to the processor.
- 1 12. The system of claim 10, wherein:
- 2 the computer is also for preprocessing such received
- 3 or generated image data, preparatory to transmitting to
- 4 the processor.
- 1 13. The system of claim 10, particularly for use with a
- 2 color image; and further comprising:
- a monitor, associated with the computer, for viewing
- 4 the image; and wherein:
- the processor further comprises at least part of a
- ϵ stage for reconciling colors viewed at the monitor with
- 7 colors to be printed at the printer.

- 1 14. The system of claim 10, particularly for use with a
- 2 color image; and further comprising:
- a monitor, associated with the computer, for viewing
- 4 the image; and wherein:
- 5 the computer comprises at least part of a stage for
- 6 reconciling colors viewed at the monitor with colors to be
- 7 printed at the printer.
- 1 15. A method of providing a system for printing an image
- 2 based on data using a printer that is manufactured by a
- 3 printer company and has a native resolution; said method
- 4 comprising the steps of:
- 5 manufacture and programming, by one or more companies
- 6 different from the printer company, of a raster image
- 7 processor for processing such data and transmitting such
- 8 processed data to the printer;
- 9 provision, by said one or more companies different
- 10 from the printer company, of a portion of a two-bit data
- 11 pipeline carrying such in-process data through at least a
- 12 part of the processor; and
- establishment, by said one or more companies dif-
- 14 ferent from the printer company, of a drop table for
- 15 converting such data from the pipeline to said native
- 16 resolution, said table having an output dot-per-pixel
- 17 structure that differs from data structure within the
- 18 pipeline.
- 1 16. The method of claim 15, further comprising:
- manufacture, by the printer company, of the printer.

- 1 17. The method of claim 15, further comprising:
- interconnection of the processor and printer by an
- 3 end-user independent of said companies.
- 1 18. The method of claim 17, further comprising:
- 2 provision of a computer for preprocessing the data
- 3 and furnishing the preprocessed data to the processor; and
- interconnection of the computer and processor by the
- 5 independent end-user.
- 1 19. A method of providing a system for printing an image
- 2 based on data using a raster image processor manufactured
- 3 and programmed by one or more processor companies, said
- 4 processor having a portion of a two-bit data pipeline car-
- 5 rying such data through at least part of the processor,
- 6 and said processor further generating or holding instruc-
- 7 tions for configuring a printer drop table; said method
- 8 comprising the steps of:
- manufacture and programming, by a printer company
- 10 different from the processor company, of a printer for
- 11 receiving such image data from the processor; said printer
- 12 having a native resolution; and
- establishment, by said printer company, of a drop
- 14 table within the printer for converting such data from the
- 15 pipeline to said native resolution, said table having an
- 16 output dot-per-pixel structure that differs from data
- 17 structure within the pipeline, and said table being con-
- 18 figured by said instructions.

- 20. The method of claim 19, further comprising:
- 2 manufacture and programming, by said one or more
- 3 processor companies, of the processor.
- 21. The method of claim 20, further comprising:
- 2 interconnection of the processor and printer by an
- 3 end-user independent of said companies.
- 1 22. The method of claim 20, further comprising:
- 2 provision of a computer for preprocessing the data
- 3 and furnishing the preprocessed data to the processor; and
- interconnection of the computer and processor by the
- 5 independent end-user.
- 1 23. The method of claim 17, further comprising:
- 2 provision of a computer for preprocessing the data
- 3 and furnishing the preprocessed data to the processor; and
- 4 interconnection of the computer and processor by the
- 5 independent end-user.

- 24. A printer for printing an image, based on input image
- 2 data;
- 3 said printer comprising:
- 4 a plural-bit data pipeline capable of processing such
- 5 data at more than one bit per pixel; and
- an interface for accepting an externally defined drop
- 7 table for converting plural-bit data from the end of the
- 8 pipeline to a specific number of dots per pixel, prepara-
- 9 tory to printing;
- wherein the number of dots per pixel defined by the
- 11 table may be substantially any integral value.
 - 1 25. The printer of claim 24, wherein:
- the interface also accepts, in addition to the table,
- 3 plural-bit image data from the end of the pipeline and a
- 4 specification of a printmode defining how such data should
- 5 be printed; and
- 6 wherein the number of dots per pixel defined by the
- 7 table may be substantially any integral value less than or
- s equal to a number of passes defined by the printmode.